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Evaluation of the Hospital Charity Care Program in New Jersey

Derek DeLia, Ph.D.

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Executive Summary

General care hospitals in New Jersey (NJ) are required by state law to provide all necessary care to patients regardless of ability to pay. To offset the costs of uncompensated care delivered to low-income uninsured patients, the state provides subsidies through the Hospital Charity Care Program. This report describes the development of that program and evaluates its recent performance.

After remaining fairly stable from 1999 to 2001, the statewide cost of charity care delivery rose from $505 million in 2001 to $767 million in 2003. These costs are based on Medicaid priced charges and adjusted for inflation using the 2003 Consumer Price Index. By 2003, charity care costs had risen to 5.3% of total hospital operating costs statewide. The state increased funding for charity care from $381 million in State Fiscal Year (SFY) 2004 to $583 million in SFY-2005 (not inflation adjusted). Even with this increase, state funding does not cover the full costs of charity care, which are expected to exceed $800 million annually in the coming years. However, some hospitals receive additional state funding from two related programs – the Hospital Relief Subsidy Fund and the Hospital Relief Subsidy Fund for Mentally Ill and Developmentally Disabled. These two programs together provide an additional $200 million of state subsidies annually to NJ hospitals.

Most charity care users are non-elderly adults with family income below 200% of the Federal Poverty Level. Females account for a much larger share of charity care claims than males (by a 2-to-1 margin) but on a cost basis males and females use approximately equal amounts of charity care. In addition, elderly residents who are a rapidly growing group of charity care users have overtaken children in terms of charity care utilization in NJ. It is likely that most hospital charity care users in the state are non-Hispanic, white, and citizens of the U.S. reflecting the overall demographics of the state's uninsured population. Nevertheless, a substantial fraction of charity care is likely provided to immigrants and racial and ethnic minorities, as these

population subgroups are disproportionately represented among low-income uninsured populations. Unfortunately, charity care claims data do not contain enough detail to verify or more fully describe the demographics of charity care users.

Prenatal care and delivery are the most common charity care services provided by hospitals in NJ. While these services are often available to women through Medicaid or NJFamilyCare, women receiving these services through charity care may be ineligible for these programs or they may be eligible but not enrolled. Given this pattern in the data and potential confusion about program eligibility, a more detailed investigation of Medicaid and FamilyCare eligibility among pregnant women receiving charity care appears warranted.

The analysis also finds a great deal of charity care utilization for diagnoses of mental health or substance abuse. In addition, a wide variety of other hospital services are provided with support from the Hospital Charity Care Program. Some of these services, such as admissions for circulatory disorders, reflect health problems that are common to all socioeconomic strata in the U.S. Other services such as treatment for hypertension, diabetes, and mental disorders, reflect healthcare utilization patterns by the uninsured nationally.

Like healthcare costs in general, charity care costs are concentrated among a small number of patients. In 2003, 50% of charity care costs were attributable to only 5% of total patient encounters (i.e., outpatient visits and inpatient admissions). Since one patient can have multiple encounters, the concentration of charity care costs may be even greater than these statistics indicate. These findings suggest that a large portion of charity care costs might be saved with improved medical management for a small number of high-cost charity care patients. This point is underscored by the prevalence of charity care costs attributable to ED visits and inpatient admissions for conditions that may have been avoided with more timely access to primary care. The costs of potentially avoidable hospital use amounted to approximately 10% of total charity care costs throughout the study period (1999-2003).

New Jersey's Hospital Charity Care Program, along with the Hospital Relief Subsidy Fund and the Hospital Relief Subsidy Fund for Mentally Ill and Developmentally Disabled, has played a pivotal role in maintaining the financial solvency of many hospitals in the state. In 2003, 53% of hospitals had negative operating margins. However, without state subsidies, this number would have been 70% with several hospitals experiencing operating margins below negative 20%.

However, even with state subsidies, the overall financial condition of hospitals in NJ is generally much worse than for hospitals in other states.

Trends in the number of uninsured residents and the utilization of hospital charity care highlight the growing importance of the Hospital Charity Care Program in New Jersey. In addition to providing a variety of acute and chronic care medical services, the program also ensures the financial stability of many hospitals that would likely become insolvent without state support. Nevertheless, the rules that govern the distribution of charity care and related state subsidies to hospitals are complex and may not provide the optimal use funds. As the costs of charity care continue to outpace the level of state funding, it becomes increasingly important to reexamine, and perhaps reform, the structure of the program to achieve maximum benefits for the population it is designed to serve.

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Introduction

Hospitals are the dominant providers of unreimbursed care to the uninsured in the United States. In 2004, uncompensated care (defined as charity care and patient bad debt) provided by hospitals amounted to approximately $26.7 billion (Hadley and Holahan, 2004). Currently, this care is paid for from a variety of sources including surplus revenue from well-insured patients and a patchwork of subsidies from federal, state, and local governments.

The demand for uncompensated care is likely to increase in the coming years as the number of uninsured residents depending on that care continues to grow (U.S. Census Bureau, 2006). It is not clear, however, whether hospitals can meet the growing demand for uncompensated care under current financing mechanisms. Recent research has documented deteriorating financial condition among safety net hospitals providing large volumes of care to the uninsured (Bazzoli et al., 2005). In addition, there are signs that hospitals in poor and low-income areas are falling behind hospitals in wealthier areas in terms of access to new technologies and ability to upgrade their facilities (Center for Studying Health system Change, 2005).

The delivery of uncompensated hospital care is a major policy issue in New Jersey. Unlike many other states, New Jersey does not have a system of county or municipal hospitals to serve as the primary providers of charity care to the uninsured. As a result, the state's uninsured population, estimated to number 1.32 million in 2004 (N.J. Center for Health Statistics, 2006), seek care from a variety of private, predominantly not-for-profit, hospitals across the state. These hospitals are required by state law to treat all patients regardless of ability to pay (N.J.S.A. 26:2h et seq., 1971).

The state provides subsidies to support hospitals that provide charity care to the low-income uninsured. Although the administration and funding sources for these subsidies have

changed several times, they continue to be a source of controversy and a major expenditure from the state treasury.

This report analyzes the development and current functioning of New Jersey's Hospital Charity Care Program. The following specific questions are addressed:

1. How has the Hospital Charity Care Program evolved into its current form?

2. How do recent trends in charity care utilization and costs compare with trends in the number of uninsured residents in the state?

3. How are charity care costs distributed across patients and geographic areas of New Jersey?

4. What services does the Hospital Charity Care Program pay for?

5. How does the delivery of charity care, and the corresponding state subsidies, affect the hospital sector in New Jersey?

History and Development of NJ's Charity Care Subsidy

Charity Care Under Hospital Rate-setting

The Charity Care Program in NJ traces its origins to the hospital rate-setting system, known as Chapter 83, which was created in 1978. Chapter 83 gave explicit consideration to uncompensated care, defined as patient bad debt (i.e., uncollected copayments from insured patients) and charity care, as an "allowable financial element" that should be added to hospital reimbursement rates (Volpp and Seigel, 1993). Over time, reimbursement mark-ups at hospitals with high levels of uncompensated care created incentives for third party payers to direct their patients to lower-cost hospitals. In response, the state created the Uncompensated Care Trust Fund (UCTF) in 1985. The Fund collected revenue from a uniform surcharge on hospital bills and distributed the revenue to hospitals with large uncompensated care volume. This provided a mechanism for supporting hospital uncompensated care without undermining the competitiveness of hospitals that delivered large volumes of that care.

Myriad changes in the health sector including rising numbers of uninsured and emphasis on market mechanisms, eroded the political and economic support for Chapter 83 (McDonough, 1997). The watershed event leading to the demise of rate-setting in NJ occurred in 1991. A group of trade unions with self-insured health benefit plans argued before the Federal District Court in Newark that the provisions of rate-setting violated the federal Employee Retirement Income Security Act (ERISA). At issue was an allegation that the uncompensated care surcharges under Chapter 83 forced union plans to pay for health care for non-union members. In May of 1992, the Court ruled in favor of the plaintiffs. This ruling acted as a catalyst for broader reform of the state's hospital reimbursement system.

The following November the state legislature passed the Health Care Reform Act of 1992 (McDonough, 1997). The Act repealed the rate-setting provisions of Chapter 83 and significantly restructured subsidies for hospital uncompensated care. In the final years of Chapter 83, there was growing concern that the UCTF was subsidizing bad debts incurred by middle class insured patients who did not pay their cost-sharing obligations. Because the UCTF did not distinguish between charity care and bad debt, hospitals did not have an incentive to pursue unpaid amounts owed to them by their insured patients.

Charity Care After Rate Deregulation

In 1993, the state formed the Essential Health Services Commission (EHSC), which was responsible for implementing the new reforms. The Commission restricted the uncompensated care subsidy to qualified (e.g., low-income) charity care patients and eliminated state reimbursement for bad debt. As a result, uncompensated care funding fell from $912 million in 1991 to $500 million in 1993 (Bovbjerg et al., 1998). The EHSC also created a temporary formula (based on hospital profitability, payer mix, and historical charity care volume) to allocate charity care payments to hospitals. In later years, the state legislature would design a series of new allocation formulas. These formulas (described below) remain a source of ongoing tension among hospitals.

The elimination of rate-setting created a need to find new sources of funding for charity care. As a temporary measure, the state used surplus funds from the Unemployment Insurance Trust Fund for this purpose. These funds were placed in the Health Care Subsidy Fund (HCSF), which was formed in 1991 and eventually became the disbursement mechanism for a variety of

healthcare initiatives in addition to charity care. Over time, the HCSF has been supported by a variety of changing funding sources in addition to the Unemployment Insurance Trust Fund including taxes on tobacco products, healthcare providers, and Health Maintenance Organizations and Intergovernmental Transfers (IGT's). Since 1992 revenue raised for hospital charity care has been claimed by the state for federal Medicaid Disproportionate Share Hospital (DSH) matching funds. Previously, only the Medicaid share of contributions to the UCTF was treated as Medicaid DSH funds. This change increased the amount of federal Medicaid DSH dollars coming into the state even as state support for uncompensated care was reduced through the elimination of bad debt as a reimbursable element. However, the federal portion of these funds has typically been retained by the state treasury, a practice that is common to many other states as well (Bovbjerg et al., 1998; Bovberg and Ullman, 2002).

Over time, state support for charity care moved up and down depending on political and budgetary conditions. From 1997 through State Fiscal Year (SFY) 2004, charity care funding fluctuated between $300 million and $400 million annually. Due to increases in healthcare costs and general inflation during this time, the real value of this funding decreased, overall and relative to the growing number of uninsured residents in the state. In SFY 2004, hospitals received $381 million in charity care distributions (Hopkins, 2004). This amount covered only part of the costs of charity care delivery, which totaled $778 million when priced at Medicaid reimbursement rates (Hopkins, 2004). Recognizing the growing shortfall, the state appropriated $583 million for charity care funding in SFY-2005 and has kept charity care funding at that level through SFY-07. Even with the additional funds, however, the amount of charity care provided is expected to exceed the amount of the subsidy. In addition, current pressures on the state budget may make it difficult to maintain this level of charity care funds.

Additional Hospital Support From the Health Care Subsidy Fund

In 1993, the state created two new funding streams to support safety net hospitals. The first is the Hospital Relief Subsidy Fund, which supports hospitals with high caseloads of substance abuse, mental illness, and high-risk pregnancies with secondary diagnoses of substance abuse and HIV. Disproportionate Share Hospitals can receive additional payment based on the facility's percentage of clients receiving treatment for HIV, mental health, tuberculosis, substance abuse and addiction, complex neonates, HIV as a secondary diagnosis, and mothers with substance abuse (N.J.A.C. 10:52-13.5).

The second funding stream is the Hospital Relief Subsidy Fund for Mentally Ill and Developmentally Disabled, which is designed to support mental health providers in the state. The amount of payment from this fund is based upon recommendations by the state Division of Mental Health Services and the Division of Developmental Disabilities (N.J.A.C. 10:52-13.6).

Distribution of Charity Care Subsidies

Definition of Charity Care

Under current program rules, hospitals seeking charity care payments from the state must submit patient-level claims to the Department of Health and Senior Services. In submitting a claim, hospitals certify that these patients have satisfactorily documented their eligibility for the state's charity care subsidy program. Charity care eligibility is based on a number of criteria. First, charity care patients must have no health insurance or have coverage that pays for only part of the hospital bill. Second, they must not be eligible for other forms of coverage such as Medicaid or the State Children's Health Insurance Program (SCHIP). Third, individuals' assets (excluding their primary residence and automobile) cannot exceed $7,500 and family assets cannot exceed $15,000. Individuals may spend down to these limits and become eligible for charity care. Patients meeting these requirements pay a portion of the hospital bill based on their income. Patients with income below 200% of the Federal Poverty Level (FPL) receive free care and those with income between 200% and 300% of the FPL receive income-based discounts as shown in Table 1. Patients with income above 300% of the FPL are not eligible for charity care.

Table 1: Discounted Fee Schedule for Charity Care Patients

Patient income as a percentage of the Federal Poverty Level (FPL)	Percentage of hospital charges paid by the patient
Less than or equal to 200% of the FPL	0%
Greater than 200% but no more than 225% of the FPL	20%
Greater than 225% but no more than 250% of the FPL	40%
Greater than 250% but no more than 275% of the FPL	60%
Greater than 270% but no more than 300% of the FPL	80%
Greater than 300% of the FPL	100%

Source: New Jersey Department of Health and Senior Services

Charity Care Reimbursement Formulas

As described earlier, the charity care reimbursement formula has gone through many changes over the years. Most recently, charity care distributions from SFY-2004 onward have been based on qualifying charity care expenses from calendar year (CY) 2002. It is useful to describe how charity care subsidies were distributed in SFY-2004, since that method still determines the distribution of charity care payments across hospitals (even if relative charity care costs have changed).

In SFY-2004, hospitals received charity care payments from the state based on a series of complex formulas that take into account the volume of charity care provided, the cost of that care, the ability to shift charity care costs onto private third party payers, and hospital financial condition. Charity care services are "priced" at the rate that the state's Medicaid fee-for-service program would pay (including add-ons for Graduate Medical Education where appropriate). After determining the amount of charity care provided by each facility, the NJDHSS calculates an adjusted charity care figure, which is equal to Medicaid priced charity care times a "profitability factor". This factor is based on hospital operating margin – excluding charity care subsidies received – for the three most recent years of data available. Hospitals with an operating margin below the statewide median are assigned a profitability factor equal to 1. All other hospitals are assigned a profitability factor (PF_i) based on operating margin (OM_i) as follows:

$$PF_i = 1 - \frac{0.75\left(OM_i - median(OM)\right)}{\left(\max(OM) - median(OM)\right)}$$

In effect, hospitals with operating margins below the statewide median have all of their charity care "counted" in the formula, while other hospitals can have 25% to 100% counted depending on how low their operating margin is relative to other hospitals. If the total amount of adjusted charity care provided by all hospitals in the state is less than or equal to the total amount of charity care funding available, then each hospital receives a subsidy equal to its adjusted charity care.

If the total amount of adjusted charity care provided by all hospitals in the state is greater than the total amount of charity care funding available (which is typically the case), then the NJDHSS considers the potential ability of hospitals to cross subsidize the costs of charity care using revenue from private third party payers. In principle, this additional mechanism seeks to

equalize the relative burden of charity care expenses on hospitals by directing more charity care funds to hospitals that provide a greater amount of charity care relative to their revenue from private insurance. Specifically, the NJDHSS calculates a "payer mix factor" (PMF), which is based on the provision of charity care relative to gross revenue from private third party payers (PGR_i) as it appears in the following ratio (R_i):

$$R_i = \frac{ACC_i}{PGR_i + s_i}.$$

The term s_i is defined as the charity care subsidy received by hospital i. The payer mix factor is defined as the smallest value of R_i that can be achieved for all hospitals by distributing amounts s_i to each hospital until the total funds available for charity care payments are exhausted. In effect, hospitals that provide the largest amounts of adjusted charity care relative to private gross revenue receive the largest subsidies.

To distribute the charity care subsidy in this case, the NJDHSS determines which hospitals have relatively low ratios of adjusted charity care to private gross revenue. Specifically, hospitals that have a value for R_i that is less than the payer mix factor before the distribution of subsidies would not receive any charity care payments from the state. All other hospitals receive payment equal to:

$$\frac{ACC_i}{PMF} - PGR_i,$$

which is the value of s_i that makes R_i equal to the PMF for all hospitals receiving charity care payments. As shown below, these distribution formulas play a large role in determining the relationship between charity care delivery, charity care subsidies, and hospital financial condition in NJ.

Data and Analysis

The analysis in the following section provides a description of charity care delivery in New Jersey from 1999 to 2003. Trends in charity care delivery are compared to contemporaneous

trends in the number of uninsured residents in the state and the distribution of charity care subsidies. Trends in charity care delivery are also compared to trends in hospital revenues, costs, and operating margins.

Trends in charity care volume are derived from adjudicated charity care claims that hospitals file with the state. All charity care utilization is organized according to the date of service rather than the date of payment. Although claims data for payment year 2004 are currently available, these records contain claims for services provided in 2003 and some years prior. It is expected that many claims for service in 2004 will appear in the adjudicated file for 2005.

To protect patient privacy, individuals are not identified in the charity care data. As a result, some of the utilization presented in this report includes repeat users within and across years.

All claim amounts are priced at rates that NJ Medicaid would have paid for services excluding add-ons for Graduate Medical Education (GME). Because Medicaid typically reimburses hospitals for less than the full costs of care (Medicare Payment Advisory Commission, 2002), Medicaid reimbursement rates will generally understate the total costs of charity care delivery. Nevertheless, amounts priced by Medicaid facilitate comparisons across hospitals and across groups of patients, since payments are based on a uniform statewide standard. Unless stated otherwise, all dollar values in the study are adjusted for inflation using the 2003 Consumer Price Index (CPI).

Trends in charity care distributions are based on hospital level information that is available on the NJDHSS website. In addition, a request for information about the HRSF and HRSFMIDD subsidies was made under the Open Public Records Act (OPRA) from the NJDHSS. These subsidy amounts are analyzed along with the charity care subsidy to provide a complete picture of state support for the hospital safety net.

Data to measure hospital revenues and costs are taken from the state's Acute Care Hospital (ACH) Annual Cost Report. Revenue is measured as net patient revenue. To avoid the potential distortion from the inclusion of subsidies from the HCSF, an alternative measure of revenue (labeled adjusted net patient revenue) that excludes these subsidies is also calculated.

Hospital operating margins (i.e., operating income divided by total revenues/gains) are derived from audited financial reports, which are available on the NJDHSS website for the years 2001 to 2003. To illustrate the role that state subsidies play in determining hospital financial performance, hospital operating margin is calculated with the exclusion of subsidies from the HCSF and labeled adjusted operating margin.

After documenting trends, the report provides detailed analysis of charity care users and the services they receive. Characteristics of users include age, gender, and income eligibility category (as defined in Table 1). Services are defined according to clinical diagnoses and procedures, which are coded using the International Classification of Disease, 9th Revision, Clinical Modification (ICD-9-CM). Diagnoses and procedures that are especially common or costly are highlighted in the analysis. A catalogue of common diagnoses is useful to understand the healthcare needs of individuals who depend on charity care services. A focus on the most costly diagnoses and procedures will serve to highlight areas where cost management strategies can provide maximum benefit. Specifically, the following quantities are calculated for 2003, which is the most recent year of complete data:

- 25 most common primary diagnoses
- 25 most costly primary diagnoses
- 25 most costly primary procedures

Prior research has shown that healthcare costs are often concentrated among a fairly small number of high-cost patients (Berk and Monheit, 2001). In this report, charity care claims data are used to determine the extent to which charity care costs are similarly concentrated.

To understand how hospital use by the charity care population compares to other patient groups, inpatient charity care admissions are compared to inpatient admissions for patients with other expected sources of payment. Other payment sources include private insurance, Medicaid, and self-pay/uninsured. Data for these payers come from New Jersey's Uniform Billing (UB-92) hospital discharge abstract. The analysis compares the percentage of admissions falling into 25 Major Diagnostic Categories (MDC's) for each payer class as a way of determining whether charity care patients receive inpatient care for substantially different reasons than other patients.

While it would be useful to make similar comparisons for outpatient visits, comparative data by payer do not exist for outpatient utilization.

Prior research suggests that poor and uninsured patients face barriers to primary care that often lead to avoidable use of hospital services (Kruzikas et al., 2004). The availability of charity care claims data provides an opportunity to determine the extent to which these barriers may lead to avoidable medical problems for charity care patients and avoidable costs for the charity care system. Toward that end, two measures of potentially avoidable hospital utilization are calculated.

The first is the volume of ambulatory care sensitive (ACS) admissions, which are often avoidable when patients have access to timely and effective primary care (Billings et al., 1993). These include admissions for asthma, bladder infections, and other diagnoses (DeLia, 2003). A paper by Blustein, Hanson, and Shea (1998) raised the issue that ACS conditions may progress differently among the elderly and concluded that pneumonia should be excluded from these conditions when calculated for this age group. In this paper, ACS admissions include pneumonia for the non-elderly and exclude it for the elderly.

The second measure of potentially avoidable hospital utilization is the number of outpatient claims for services received through the ED, which are considered emergent and requiring hospital care but avoidable if patients had received primary or preventive care at an earlier stage. These include, for example, flare-ups of asthma, diabetes, and congestive heart failure. The classification of these visits is based on an algorithm designed for use with hospital billing data that was developed at New York University (Billings et al., 2000; NYU Center for Health and Public Service Research, not dated). The algorithm also identifies ED visits without admission, which are classified as non-emergent and emergent but primary care treatable. While treatment for these conditions might be provided in non-hospital settings, low-income uninsured patients would still require assistance in paying for these services. Therefore, moving these services out of the hospital and into other settings would not necessarily represent a cost saving to the state unless other sites of care could provide the same service at substantially lower costs. Since it is beyond the scope of this report to compare the costs of primary care delivery across types of delivery site, ED visits for conditions that are considered non-emergent or emergent but primary care treatable are not addressed.

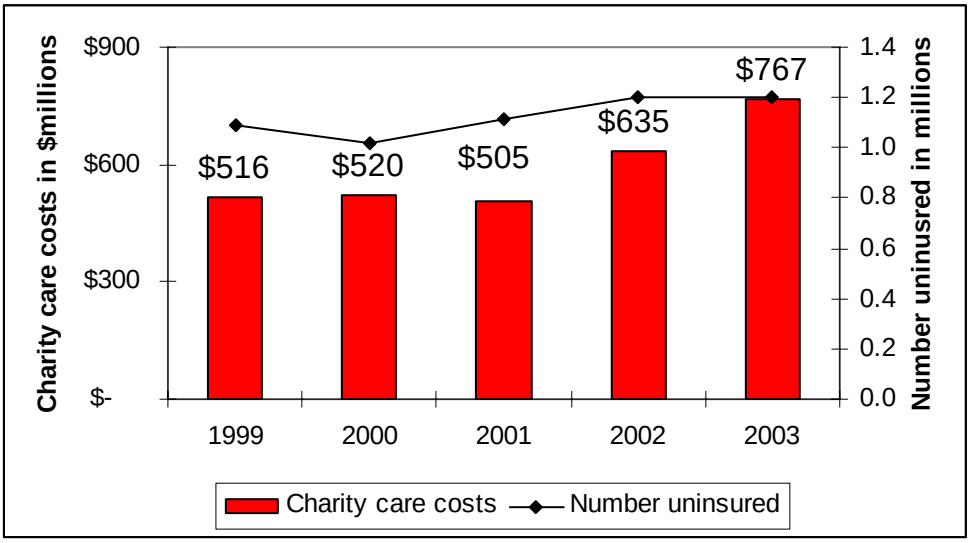
The analysis also examines the concentration of charity care utilization in different areas of the state. The demand for uncompensated hospital care is often disproportionately high in urban areas where high rates of poverty and uninsurance are common. To quantify this phenomenon, this study classifies hospitals in NJ as urban based on a method developed for the NJ Department of Human Services (DeLia and Belloff, 2005). Specifically, hospitals located in cities with a population of at least 25,000 and population density of at least 9,000 people per square mile are considered urban. All other hospitals are considered non-urban. Using this classification, the costs of charity care delivered by 32 facilities classified as urban are compared to the corresponding costs for 52 that are classified as non-urban.

One of the primary drivers of the demand for charity care from local hospitals is the size of the uninsured population in the area. To determine how well the delivery of charity care matches the demand, the amount of charity care should be compared to the number of uninsured residents. Unfortunately, local area estimates of the uninsured population do not exist for most years of the study. Recently, the U.S. Census Bureau calculated estimates of the uninsured population for all counties in the United States for the year 2000. These data are used to determine how well the provision of charity care matched the number of uninsured residents in each county in 2000.

Trends in Charity Care Costs, Utilization, and Subsidies

After remaining fairly stable from 1999 to 2001, charity care costs in New Jersey grew by 52% from 2001 to 2003 (Figure 1). During this time, charity care costs for outpatient services grew more rapidly than they did for inpatient care. By 2003, outpatient charity care accounted for 49.5% of the total compared to 40.5% in 1999. Changes in total charity care costs correspond only roughly to changes in the state's uninsured population. After falling in 2000, the uninsured population grew steadily through 2002 but then leveled off in 2003.

Figure 1: Trends in Charity Care[a] and Uninsured Population in NJ, 1999-2003



Sources: NJ Charity Care Claim Records, U.S. Census Bureau
[a] Dollar value of charity care priced at Medicaid reimbursement rate (excluding add-ons for graduate medical education). Dollar amounts are adjusted for inflation using the 2003 base year Consumer Price Index

The growth in charity care expenditures is driven more by increased volume of charity care use than by greater costs per user (Table 2). From 1999 to 2003, outpatient charity care costs grew by 81%. This change reflects 52% growth in the number of outpatient visits and 20% growth in costs per visit. However, growth in volume of outpatient visits has been steadier than growth in costs per visit, which fluctuated during the time period. Moreover, the growth in charity care costs per outpatient visit is somewhat smaller when changes in medical care price inflation are taken into account. Specifically, costs per outpatient visit grew by only 12% when adjusted with the Medical Care-Consumer Price Index instead of the general Consumer Price Index. Nevertheless, this level of growth in real per visit costs suggests that patient acuity may have risen somewhat for users of ambulatory charity care during the study period.

Inpatient charity care costs show a similar pattern. Total inpatient admissions grew by 19% while general inflation-adjusted costs per admission grew by only 6%. Moreover, when adjusting for medical care price inflation, costs per admission fell by 1%.

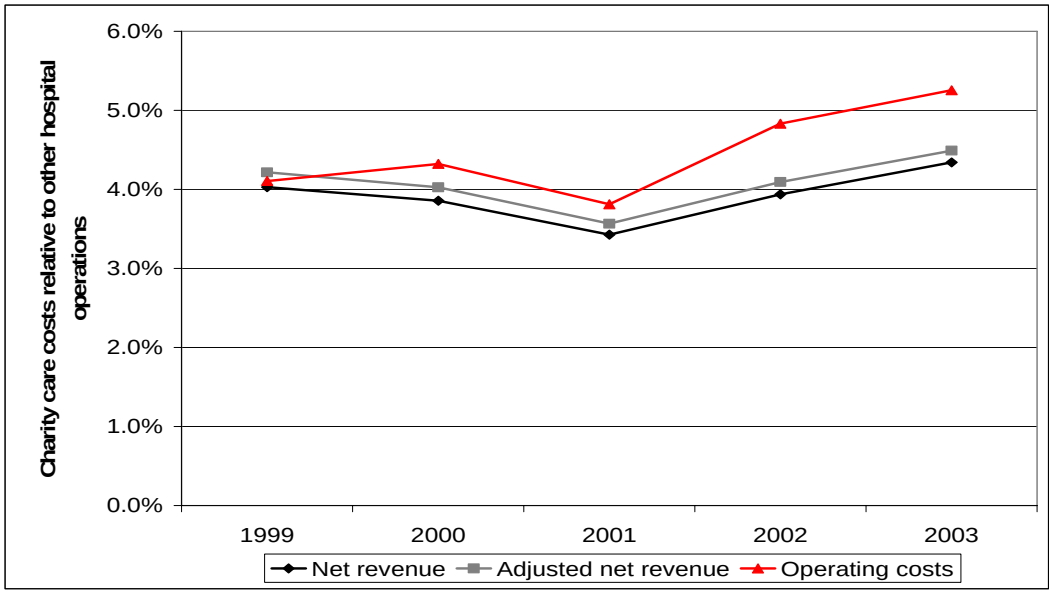
Table 2: Trends in Charity Care Utilization and Costs per Unit of Service

	1999	2000	2001	2002	2003
Outpatient visits	617,687	672,780	594,276	720,476	937,913
Inpatient admissions	62,393	62,299	57,201	65,223	74,289
Inpatient days	355,542	332,423	304,021	360,688	395,301
Average cost per outpatient visit					
Adjusted for general inflation[a]	$338	$321	$380	$417	$404
Adjusted for health-care price inflation[b]	$363	$342	$398	$424	$404
Average cost per inpatient admissions					
Adjusted for general inflation[a]	$4,919	$4,886	$4,889	$5,129	$5,214
Adjusted for health-care price inflation[b]	$5,280	$5,211	$5,126	$5,217	$5,214

Source: NJ Charity Care Claim Records
[a]Adjusted for inflation using the 2003 general Consumer Price Index
[b]Adjusted for inflation using the 2003 Medical Care-Consumer Price Index

From 1999 to 2001, charity care costs accounted for roughly 4% of total hospital operating costs statewide (Figure 2). This percentage rose to 4.8% in 2002 and to 5.3% in 2003. Hospital revenue generally exceeds hospital costs statewide. Therefore, charity care costs relative to net patient revenue and adjusted net patient revenue (i.e., with charity care subsidies removed) are smaller. Nevertheless, the pattern observed for charity care costs relative to operating costs is the same for charity care costs relative to both revenue measures. Namely, the relative burden of charity care statewide was fairly steady from 1999 to 2001 but rose sharply in 2002 and 2003.

Figure 2: Charity Care Costs as a Percentage of Statewide Hospital Operations, 1999-2003

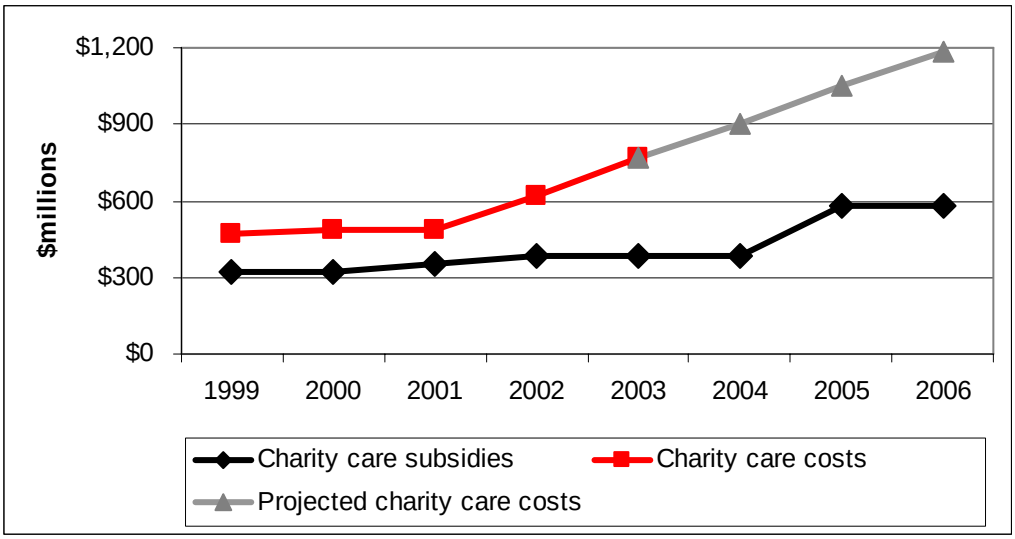


Sources: NJ Charity Care Claim Records, NJ Acute Care Hospital Annual Cost Report
Adjusted net revenue is defined as net revenue less subsidies received from the Health Care Subsidy Fund.

Figure 3 shows how nominal (i.e., not inflation-adjusted) charity care subsidies have kept pace with nominal charity care costs in recent years. From 1999 to 2001, both charity care costs and subsidies remained stable. In 2002 and 2003, the subsidy amount remained flat as charity care costs grew rapidly. As described above, the charity care subsidy was increased substantially in SFY 2005. However, if the trend through 2003 persists into later years, the subsidy will still fall well short of charity care costs incurred by hospitals.

As mentioned above, hospitals also receive subsidies from the Hospital Relief Subsidy Fund and the Hospital Relief Subsidy Fund for the Mentally Ill and Developmentally Disabled. Trends in these subsidies are shown in Table 3. These subsidies have consistently added approximately $200 million to the state subsidies hospitals receive to support a variety of safety net services for the uninsured, underinsured, and other vulnerable patients.

Figure 3: Charity Care Subsidies Relative to Charity Care Costs in NJ, 1999-2006[a,b,c]



Sources: NJ Charity Care Claim Records, New Jersey Department of Health and Senior Services
[a] Dollar value of charity care priced at Medicaid reimbursement rate (excluding add-ons for graduate medical education).
[b]Charity care costs are calculated for calendar years. Charity care subsidies are based on state fiscal years.
[c]All dollar figures are nominal – i.e., not adjusted for inflation.

Table 3: Total Payments from the Hospital Relief Subsidy Fund and the Hospital Relief Subsidy Fund for the Mentally Ill and Developmentally Disabled in $millions, State fiscal Years 2002-2006

	2002	2003	2004	2005	2006
HRSF[a]	$183	$183	$183	$183	$183
HRSFMIDD[b]	$20	$20	$20	$20	$15[c]

Source: New Jersey Department of Health and Senior Services
[a]Hospital Relief Subsidy Fund
[b]Hospital Relief Subsidy Fund for the Mentally Ill and Developmentally Disabled
[c] First three quarters of the year only.

Charity Care Patients and Services Received

Demographics

Throughout the study the vast majority (approximately 90%) of charity care users were classified as having income below 200% of the Federal Poverty Level (FPL). Patients with income between 200% and 300% of the FPL are also eligible for charity care. However, since they are relatively less likely to be uninsured (DeLia et al., 2004) and are required to pay a portion of the hospital bill, patients in this higher income category may be less likely to apply for charity care.

Approximately 90% of charity care users were classified as non-elderly adults (Table 3). This is not surprising given the availability of Medicare for the elderly and Medicaid and the State Children's Health Insurance Program (SCHIP) for children. The heaviest users of charity care are adults ages 26 to 45 followed by adults ages 46 to 64. Although non-elderly adults have been the predominant users of charity care throughout the study period, some shifting in the age distribution of charity care users has occurred over time. As described elsewhere (DeLia, 2006) the share of charity care utilization that is not attributable to non-elderly adults has been shifting away from children and toward the elderly. Specifically, charity care costs attributable to the elderly grew from 4.7% of statewide costs in 1999 to 5.3% in 2003. For children, the share of statewide charity care costs declined from 4.4% in 1999 to 3.2% in 2003.[1]

Table 3: Age-sex Distribution of Charity Care Patients in NJ, 2003

	Percentage of Total Encounters			Percentage of Total Costs		
Age	**Male**	**Female**	**Combined**	**Male**	**Female**	**Combined**
All Ages	36.4%	62.9%	99.3%	49.9%	49.2%	99.1%
Ages 0-5	0.9%	0.7%	1.6%	0.5%	0.4%	0.9%
Age 6-12	0.9%	0.8%	1.7%	0.4%	0.3%	0.7%
Age 13-18	0.8%	1.5%	2.3%	0.7%	0.9%	1.5%
Age 19-25	3.7%	9.5%	13.3%	5.3%	5.9%	11.2%
Age 26-45	15.6%	25.5%	41.1%	21.9%	19.9%	41.7%
Age 46-64	12.9%	21.6%	34.5%	19.1%	18.6%	37.7%
Age 65 and Over	1.7%	3.1%	4.8%	2.2%	3.1%	5.3%

Source: NJ Charity Care Claim Records

Although males slightly outnumber females among the ranks of the uninsured in New Jersey (DeLia et al., 2004), charity care utilization by females is approximately twice that of males in terms of total charity care encounters (i.e., outpatient visits and inpatient admissions combined). However, in terms of charity care costs, male and female utilization are approximately equal to each other (Table 3).

Most Common Diagnoses and Procedures

The imbalance in charity care volume between males and females is reflected in the most common primary diagnoses for charity care patients. As shown in Table 4, supervision of pregnancy was the most common diagnosis among all charity care claims in 2003. Moreover, 5 of the top 25 primary diagnoses were related to obstetric or gynecological care. Nevertheless, even when pregnancy-related diagnoses are excluded, non-elderly adult females still account for more than half of all charity care claims.

The other most common primary diagnoses span a wide variety of health services. These include acute care (e.g., for chest pain, urinary tract infection), chronic care (e.g., for diabetes, chronic kidney disease), and preventative care such as gynecological, dental, and routine medical exams. Moreover, when secondary diagnoses are included, problems with mental health and substance abuse are prevalent even though these conditions are not prominent among the top 25 primary diagnoses.

Table 4: 25 Most Common Primary Diagnoses among Charity Care Claims in 2003

ICD-9-CM	Diagnosis	Number of Claims	Percent of Total Claims	Cumulative Percentage
V22.1	Supervision of other normal pregnancy	186,474	5.5%	5.5%
401.9	Unspecified essential hypertension	92,513	2.7%	8.2%
V22.2	Pregnant state, incidental	74,053	2.2%	10.4%
042	Human immunodeficiency virus [HIV]	69,514	2.0%	12.4%
250.00	Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled	67,076	2.0%	14.4%
789.00	Abdominal pain, unspecified site	65,508	1.9%	16.3%
V72.3	Gynecological examination	57,104	1.7%	18.0%
786.50	Unspecified chest pain	39,244	1.2%	19.1%
V57.1	Other physical therapy	39,216	1.2%	20.3%
599.0	Urinary tract infection, site not specified	37,126	1.1%	21.4%

V70.0	Routine general medical examination at health care facility	34,483	1.0%	22.4%
648.93	Other current maternal conditions classifiable elsewhere, antepartum	30,353	0.9%	23.3%
585	Chronic kidney disease (CKD)	29,838	0.9%	24.2%
786.59	Other chest pain	27,326	0.8%	25.0%
784.0	Headache	27,257	0.8%	25.8%
311	Depressive disorder, not elsewhere classified	25,519	0.7%	26.5%
724.2	Lumbago	25,382	0.7%	27.3%
V70.9	Unspecified general medical examination	25,052	0.7%	28.0%
174.9	Malignant neoplasm of breast (female), unspecified site	21,304	0.6%	28.6%
V20.2	Routine infant or child health check	20,922	0.6%	29.2%
V22.0	Supervision of normal first pregnancy	20,780	0.6%	29.8%
724.5	Unspecified backache	20,765	0.6%	30.5%
401.1	Essential hypertension, benign	20,563	0.6%	31.1%
780.39	Other convulsions	20,227	0.6%	31.7%
V72.2	Dental examination	19,114	0.6%	32.2%

Source: NJ Charity Care Claim Records

The most costly diagnoses are generally different from those that are the most common. For example, the most costly diagnosis in terms of total charity care costs (coronary atherosclerosis of native coronary artery) does not appear in the top 25 by charity care volume (Table 5 vs. Table 4). In addition to heart- and circulatory-related disorders, mental health and substance abuse problems are also common among the costliest primary diagnoses. Due in part to its high volume, supervision of normal pregnancy also accounts for a large share of total charity care costs.

Table 5: 25 Most Costly Primary Diagnoses among Charity Care Claims in 2003

ICD-9-CM	Diagnosis	Claim Amount	Percent of Total Costs	Cumulative Percentage
414.01	Coronary atherosclerosis of native coronary artery	$12,708,803	1.7%	1.7%
304.01	Opioid type dependence, continuous abuse	$10,459,266	1.4%	3.1%
486	Pneumonia, organism unspecified	$10,278,376	1.3%	4.4%
042	Human immunodeficiency virus [HIV]	$10,164,470	1.3%	5.7%
428.0	Congestive heart failure, unspecified	$9,779,771	1.3%	7.0%
V58.1	Encounter for antineoplastic chemotherapy and immunotherapy	$9,190,007	1.2%	8.2%
786.59	Other chest pain	$9,145,514	1.2%	9.4%
789.00	Abdominal pain, unspecified site	$8,114,213	1.1%	10.5%
V22.1	Supervision of other normal pregnancy	$7,936,052	1.0%	11.5%
786.50	Unspecified chest pain	$7,749,185	1.0%	12.5%
295.70	Schizoaffective disorder, unspecified	$7,687,960	1.0%	13.5%
292.0	Drug withdrawal	$7,657,334	1.0%	14.5%
401.9	Unspecified essential hypertension	$7,558,711	1.0%	15.5%
311	Depressive disorder, not elsewhere classified	$6,642,907	0.9%	16.4%
577.0	Acute pancreatitis	$6,335,400	0.8%	17.2%
296.30	Major depressive disorder, recurrent episode, unspecified	$6,137,671	0.8%	18.0%
410.71	Acute myocardial infarction, subendocardial infarction, initial episode of care	$5,935,518	0.8%	18.8%

174.9	Malignant neoplasm of breast (female), unspecified site	$5,280,339	0.7%	19.5%
295.30	Paranoid schizophrenia, unspecified condition	$5,131,796	0.7%	20.2%
493.92	Asthma, unspecified, with (acute) exacerbation	$4,918,948	0.6%	20.8%
585	Chronic kidney disease (CKD)	$4,852,727	0.6%	21.4%
780.39	Other convulsions	$4,595,808	0.6%	22.0%
298.9	Unspecified psychosis	$4,353,473	0.6%	22.6%
784.0	Headache	$4,312,061	0.6%	23.2%
296.7	Bipolar I disorder, most recent episode (or current) unspecified	$3,973,658	0.5%	23.7%

Source: NJ Charity Care Claim Records

Table 6 shows the eight most common Major Diagnostic Categories of inpatient charity care utilization. These eight MDC's account for 73% of all inpatient charity care admissions. The most common MDC for charity care patients is for substance abuse, which accounts for 17% of all charity care inpatient admissions. These admissions are much less common among other payer groups. The population of inpatient charity care users is also more likely than Medicare and privately insured inpatients to be admitted for mental health problems, although their share of admissions within this MDC is comparable to the corresponding shares for Medicaid and self-pay patients. While pregnancy-related care is very common among charity care users, as a percentage of total inpatient utilization, it is much less common than for other patient groups, especially Medicaid patients who are much more likely to be admitted for childbirth. Only Medicare inpatients (who are generally not expected to use obstetric services) are less likely than charity care inpatients to have an admission for pregnancy or childbirth. An important caveat to analysis by payer using Uniform Billing (UB) records is the inability to clearly separate Medicare and Medicaid patients who are enrolled in HMO's. Although the UB system recently added fields to capture Medicaid and Medicare managed care patients, it is possible that many of these patients are still classified as HMO. Nevertheless, many of the differences between charity care and other patients identified here do not appear to be sensitive to this problem.

Table 6: Eight Most Common Major Diagnostic Categories for Inpatient charity Care Users compared to other Inpatients in NJ, 2003

MDC	MDC Description	Charity Care	Medicaid	Medicare	Private	Self
20	Alcohol/Drug Use & Alcohol/Drug Induced Organic Mental Disorders	17%	3%	0%	1%	10%
5	Circulatory System	14%	7%	27%	11%	11%
19	Mental Diseases & Disorders	11%	10%	2%	1%	8%
6	Digestive System	8%	6%	13%	13%	9%
4	Respiratory System	8%	8%	12%	5%	6%
14	Pregnancy, Childbirth & The Puerperium	5%	20%	0%	14%	11%
7	Hepatobbiliary/Genitourinary	5%	2%	2%	3%	4%
1	Nervous System and Sense Organs	5%	4%	7%	4%	4%

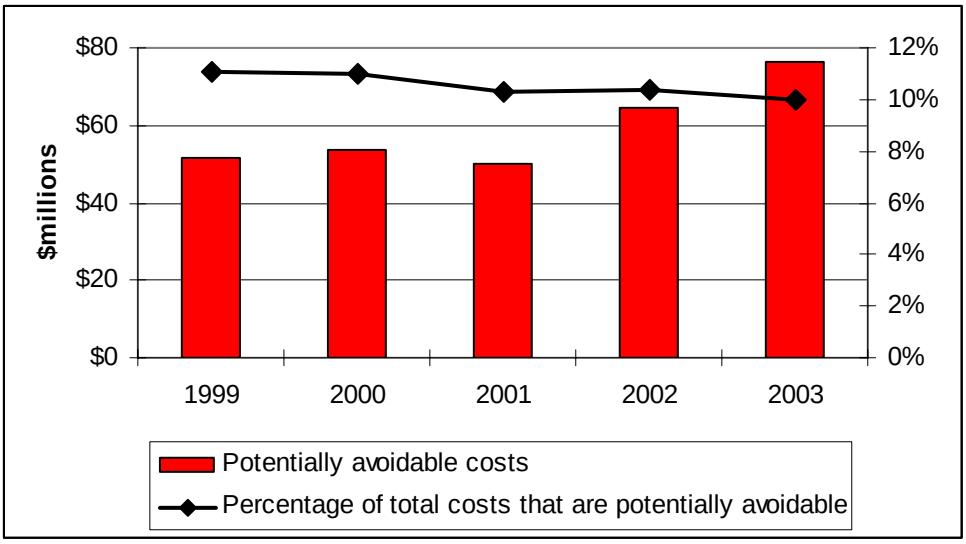
Source: NJ Charity Care Claim Records

A growing amount of charity care costs are attributable to conditions that may have been prevented if patients had more timely access to primary care (Figure 4). As a percentage of total charity care costs, those classified as avoidable have been fairly stable or even declining in some years. Nevertheless, these conditions have consistently accounted for at least 10% of all charity care costs from 1999 to 2003.

Concentration of Costs

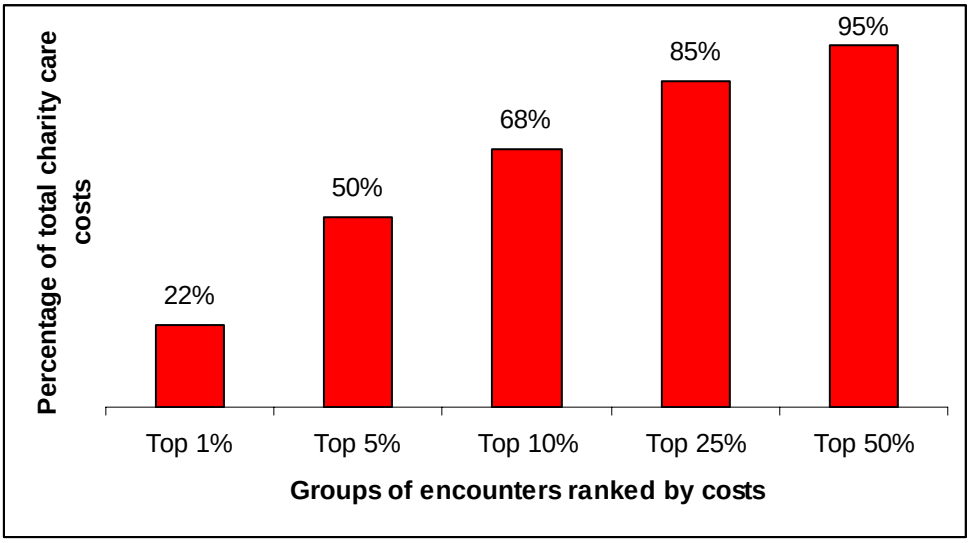
To account for the concentration of charity care costs, charity care encounters (i.e., inpatient admissions and outpatient visits) were ranked by cost per encounter – i.e., top 1%, top 5%, etc. – in 2003. Within each group, the percentage of statewide charity care costs was calculated. As shown in Figure 5, 1% of charity care encounters generate more than 1/5 of total charity care costs and 5% of these encounters are responsible for 1/2 of total charity care costs. Patients in the bottom 50% account for less than 5% of these costs statewide. It is important to point out that this analysis is based on encounters instead of patients. If high-cost patients have multiple encounters, then charity care costs would be even more concentrated than the data in Figure 4 suggest. (Similar results are obtained for other years of data.)

Figure 4: Potentially Avoidable Charity Care Costs, 1999-2003[a,b]



Source: NJ Charity Care Claim Records
[a] Dollar value of charity care priced at Medicaid reimbursement rate (excluding add-ons for graduate medical education).
[b]Potentially avoidable costs are those attributable to ambulatory care sensitive admissions and emergent but avoidable ambulatory visits to the Emergency Department. See text for details.

Figure 5: Concentration of Charity Care Costs among the Most Expensive Encounters,[a] 2004

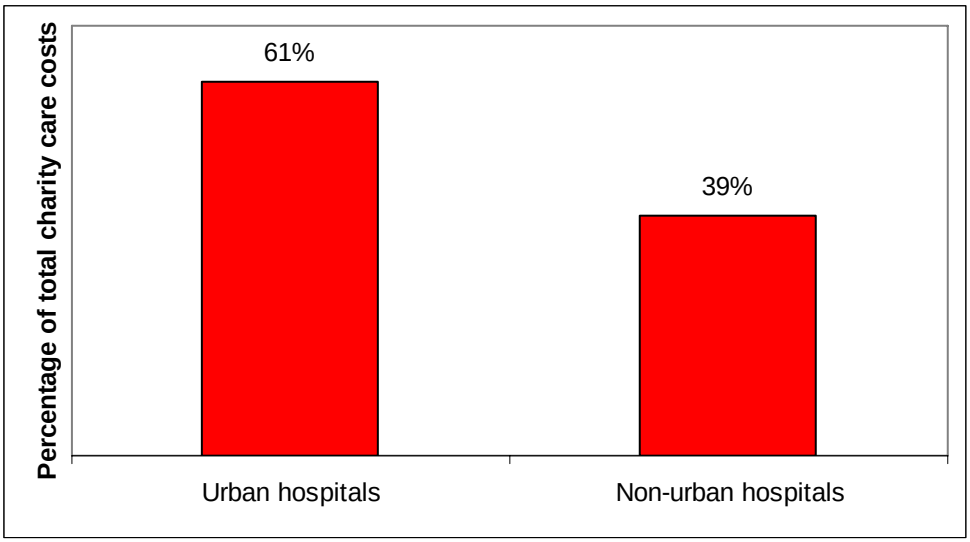


Source: NJ Charity Care Claim Records
[a]Encounters are defined as the sum of inpatient admissions and outpatient visits.

Geographic Distribution of Charity Care Costs

Charity care costs are also concentrated geographically. As expected, urban hospitals account for a much larger percentage of statewide charity care costs compared to non-urban hospitals (Figure 6). However, growth in charity care costs from 1999 to 2003 has been similar in urban and non-urban hospitals (by 62% and 68%, respectively).

Figure 6: Distribution of Charity Care Costs between Urban[a] and Non-Urban Hospitals, 2003



Source: NJ Charity Care Claim Records
[a]Urban hospitals are defined as hospitals located in municipalities with at least 25,000 residents and at least 9,000 people per square mile.

Charity care costs are concentrated within counties (Table 7). The top 4 counties account for 54% of statewide charity care costs. Not surprisingly, these counties are located in the more urbanized northeastern part of the state. Essex County alone, which includes the city of Newark, accounts for almost 1/4 of all charity care delivery in the state. Relatively sparsely populated counties account for very small shares of charity care costs.

Table 7: Charity Care Costs by County, 2003

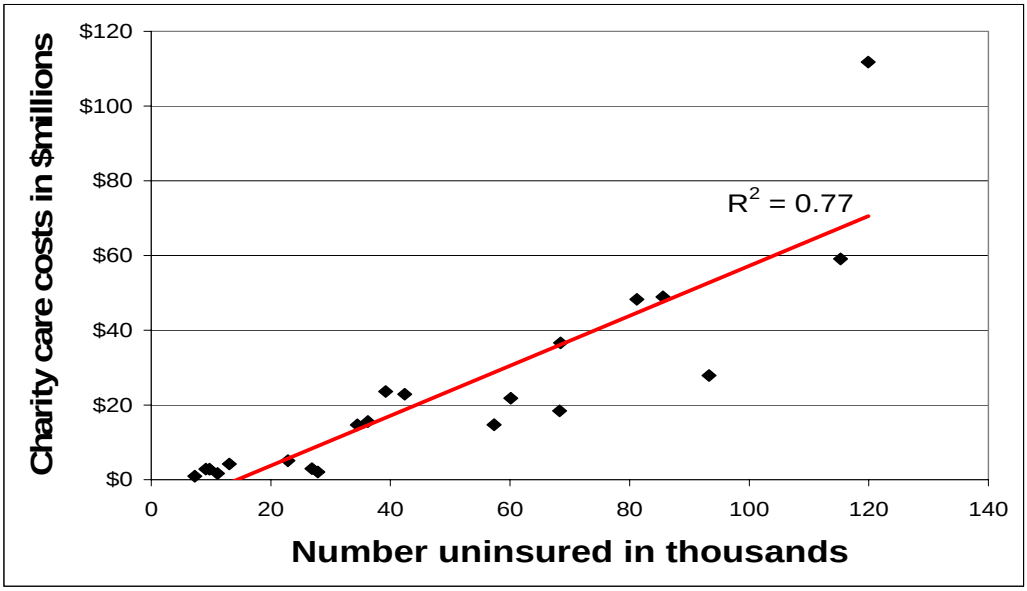
County	Charity Care Costs	Percentage of statewide total
Essex	$179,922,181	23%
Hudson	$85,426,456	11%
Passaic	$76,185,988	10%
Bergen	$73,215,124	10%
Union	$48,830,007	6%
Middlesex	$45,261,318	6%
Monmouth	$39,266,270	5%
Morris	$39,239,384	5%
Camden	$38,211,795	5%
Mercer	$38,110,900	5%
Atlantic	$23,094,159	3%
Burlington	$20,801,475	3%
Ocean	$20,369,053	3%
Cumberland	$9,208,858	1%
Sussex	$7,006,943	1%
Somerset	$5,085,687	1%
Warren	$4,519,284	1%
Hunterdon	$4,352,964	1%
Gloucester	$4,182,554	1%
Salem	$2,401,178	0%
Cape May	$1,913,779	0%

Source: NJ Charity Care Claim Records

As shown in Figure 7, there is a fairly strong relationship between the number uninsured and the amount of charity care provided within counties. Specifically, 78% of the variation in county-level charity care is associated with variation in the number of uninsured residents. Nevertheless, data for some counties lie far from the line that best summarizes the relationship between these two variables. In particular, hospitals in Essex County report a much greater level of charity care than would be expected based on their uninsured population alone. In contrast,

hospitals in several other counties (e.g., Camden, Middlesex, Monmouth, and Ocean) report a lower-than-expected volume of charity care. It should be noted that factors other than the total number of uninsured county residents play a role in charity care delivery. These include crossing of county boundaries by uninsured patients, characteristics of the uninsured such as socioeconomic and health status, practice patterns of local physicians, and potential variation in the procedures used by hospitals to determine charity care eligibility of their patients. Nevertheless, the presence of outliers in the data suggests that more detailed examination of charity care utilization within counties may be useful for better targeting of subsidies.

Figure 7: Correlation between Charity Care Costs and Number of Uninsured Individuals in NJ Counties, 2000



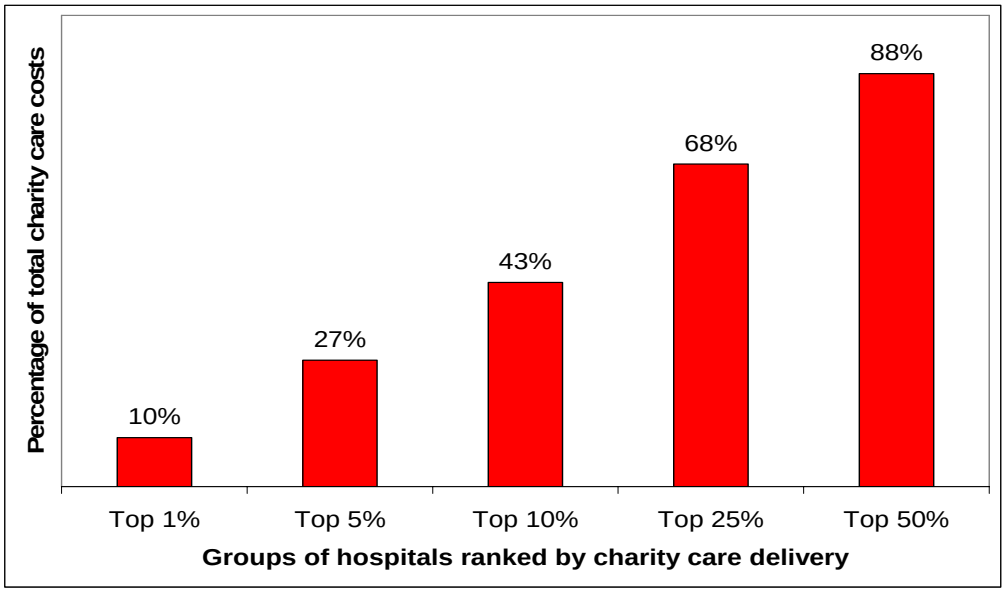
Sources: NJ Charity Care Claim Records, U.S. Census Bureau

Charity Care Burden on Hospitals

Hospitals vary substantially in the amount of charity care they provide. In 2003, the median hospital provided $4.8 million of charity care services (i.e., 50% of hospitals provided more than this amount and 50% provided less). However, in the same year, charity care provision was less than $756,000 for 10% of the state's hospitals and exceeded $19.7 million for another 10% of hospitals. As a result, statewide charity care costs are concentrated within a fairly small set of hospitals. For example, the top 5% of hospitals by charity care costs account for more than 1/4 of

these costs statewide (Figure 8). The top 10% account for more than 2/5 of statewide charity care costs.

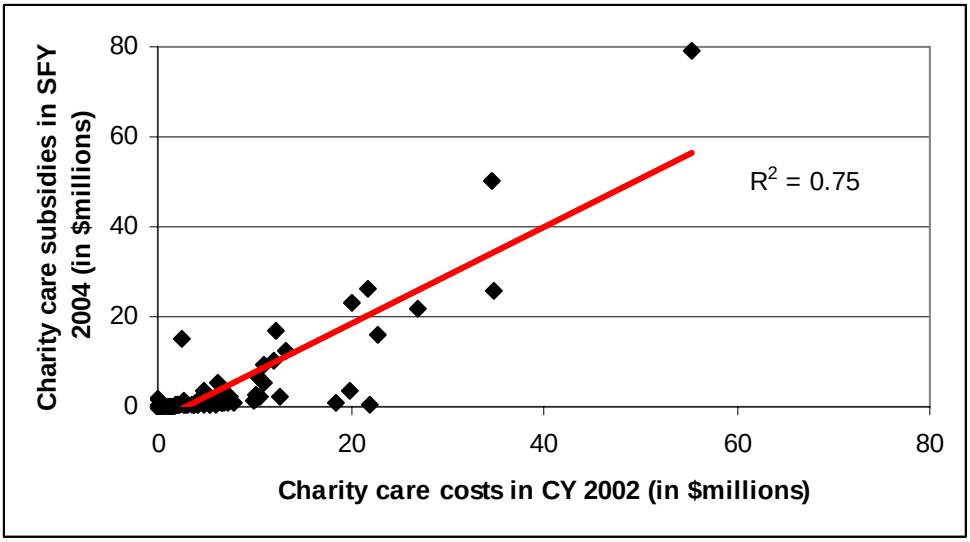
Figure 8: Concentration of Charity Care Costs among Hospitals, 2003



Source: NJ Charity Care Claim Records

As described above, the formal link between charity care costs and charity care subsidies ended in SFY-2004, when hospitals were reimbursed for charity care delivered in 2002. Although total charity care payments increased in later fiscal years, relative charity care payments across hospitals were frozen at the 2002 levels thereafter. Figure 9 shows how the costs of charity care delivered in 2002 relate to the amount of subsidy received in SFY-2004. The fitted line shows that on average the amount of charity care received increases almost dollar for dollar with the amount of charity care delivered. Overall, variation in charity care costs incurred is associated with 75% of the variation in charity care subsidies received by hospitals (i.e., R^2=0.75). Nevertheless, the data points for many hospitals lie far from the fitted line that reflects this average relationship. These deviations from the fitted line reflect the structure of the charity care formula, which is designed to provide larger subsidies to some hospitals, particularly those with lower operating margins and relatively fewer privately insured patients. The relationship between subsides in SFY-2005 and charity care delivered in 2003 is similar. The R^2 value for this later combination of years is slightly higher at 0.80 reflecting in part the increase in charity care payments for hospitals that previously received little or no distributions in SFY-2004.

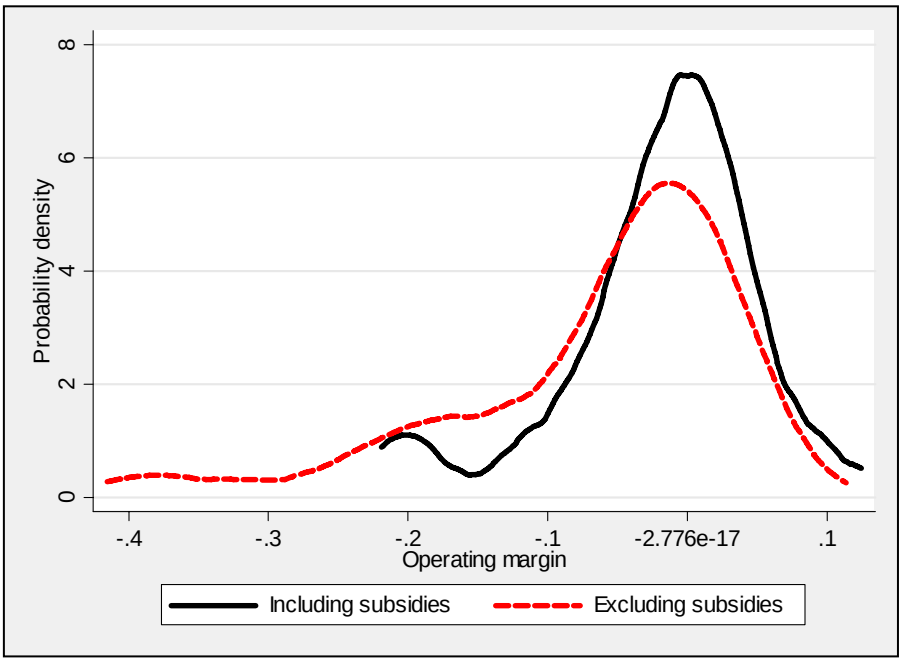
Figure 9: Relationship between Charity Care Costs and Charity Care Subsidies Received for Care Delivered in 2002



Sources: NJ Charity Care Claim Records, New Jersey Department of Health and Senior Services
SFY is State Fiscal Year. CY is calendar year.

The charity care subsidy and other subsidies received from the HCSF have been instrumental in maintaining the financial viability of many hospitals in NJ. In 2003, the median operating margin for NJ hospitals was approximately zero – i.e., half of hospitals earned profits while the other half incurred losses for the year. A number of very low operating margins combined with very few large operating margins resulted in a statewide average of minus 1.9%. As shown in Figure 10, the financial picture for NJ hospitals would be much worse if the distributions from the HCSF were removed from the financial calculations. Specifically, the exclusion of state subsidies would pull many hospitals' operating margins down toward minus 30% or lower. More precisely, the median operating margin would fall from approximately 0 to minus 3.1%. Moreover, the percentage of hospitals operating with negative margins would increase from 52.9% with subsidies to 70.0% without the subsidies.

Figure 10: Distribution of Hospital Operating Margins with and without Subsidies from the Health Care Subsidy Fund, 2003

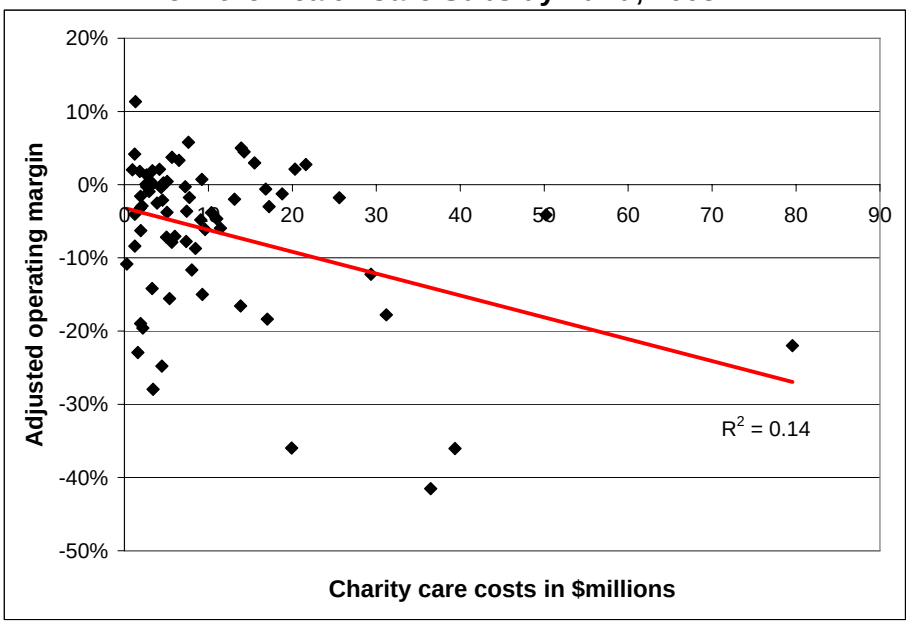


Sources: Audited Hospital Financial Data, Acute Care Hospital Annual Cost Report

Subsidies from the HCSF have insulated the largest providers of charity care and hospitals with the largest relative charity care burden from the financial consequences of delivering unreimbursed care. Figure 11 shows the relationship between hospital operating margin without the HCSF subsidies and total charity care costs in 2003. On average, the relationship is negative with variation in charity care costs accounting for 14% of the variation in pre-subsidy operating margin. When the subsidies are included in the calculation of operating margin, the relationship virtually disappears (i.e., the R^2 statistic falls from 0.14 to 0.03).

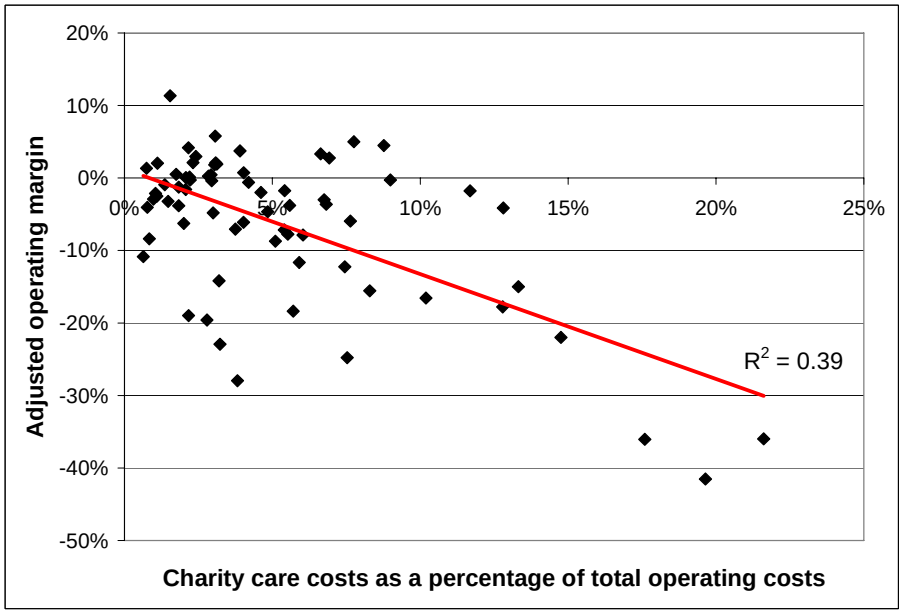
Hospitals that treat large numbers of charity care patients may have other activities that allow them to offset these costs such as revenue from well-insured patients. Therefore, charity care burden – i.e., charity care relative to broader hospital operations – is expected to have a greater impact on hospital financial condition than the total amount of charity care provided. This is indeed the case using charity care costs as a percentage of total operating costs to measure charity care burden.[2] There is a clear negative relationship between hospital operating margin without the HCSF subsidies and charity care costs relative to total operating costs (Figure 12). Variation in charity care burden is associated with 39% of the variation in pre-subsidy operating margin. But when HCSF subsidies are included in the calculation of operating margin, the negative relationship vanishes (i.e., the R^2 statistic falls from 0.39 to less than 0.01).

Figure 11: Relationship between Hospital Operating Margin (Excluding Subsidies from the Health Care Subsidy Fund) and Charity Care Costs without Subsidies from the Health Care Subsidy Fund, 2003



Sources: NJ Charity Care Claim Records, NJ Acute Care Hospital Annual Cost Report, NJ Hospital Audited Financial Statements
[a] Dollar value of charity care priced at Medicaid reimbursement rate (excluding add-ons for graduate medical education).

Figure 12: Relationship between Hospital Operating Margin (Excluding Subsidies from the Health Care Subsidy Fund) and Charity Care Costs Relative to Total Operating Costs



Sources: NJ Charity Care Claim Records, NJ Acute Care Hospital Annual Cost Report, NJ Hospital Audited Financial Statements
[a] Dollar value of charity care priced at Medicaid reimbursement rate (excluding add-ons for graduate medical education).

Discussion

After remaining fairly constant in real terms from 1999 to 2001, the costs of charity care provided by New Jersey hospitals grew rapidly from 2001 to 2003. Charity care growth corresponded loosely to growth in the state's uninsured population during these years. Although charity care volume has increased dramatically, charity care costs per unit of service (i.e., visits or admissions) have generally kept pace with overall medical care price inflation. However, in the most recent years, charity care costs have accounted for a growing percentage of total hospital operating costs and consumed a rising share of hospital revenues. Some of the growth in charity care use may be driven by multiple episodes of care for the same patients. Unfortunately, this possibility remains unaddressed because charity care claim records used in this study do not contain patient identifiers to track repeat users.

From 1999 to 2003, charity care patients were predominantly non-elderly adults, females, and individuals with income below 200% of the FPL. On a cost basis, however, charity care utilization between males and females has been evenly distributed. The income distribution is somewhat surprising, since only 40% of the state's uninsured population have family income below 200% of the FPL (DeLia et al., 2004). Although patients with income above this threshold do not receive free care, those with income below 300% of the FPL are eligible for discounted care through the Charity Care Program. The age distribution generally reflects the greater availability of coverage for children through Medicaid and FamilyCare and for the elderly through Medicare.

An important trend, described more fully elsewhere (DeLia, 2006), is the rising volume of charity care provided to NJ residents ages 65 and over. Although most elderly residents of the U.S. are covered by Medicare, elderly residents who are recent or undocumented immigrants are not eligible for Medicare or non-emergency Medicaid coverage.[3] Due to this trend as well as insurance coverage expansions for children, the elderly now account for a greater share of charity care volume and costs in NJ than children do. Because they have more costly and complex medical needs, the uninsured elderly will clearly create new challenges for charity care providers.

Although the use of charity care by children has declined, it still remains fairly high in light of efforts by the state to expand coverage to all low-income and poor children. Continued

use of charity care by this population would suggest the need to redouble efforts at enrolling children who are eligible for Medicaid or Family Care.

To better understand the demand for medical services and potential access to health insurance coverage, it is often useful to account for patient race, ethnicity, immigration status, and residential location. Unfortunately, this information is not available in charity care claim records. It is likely that most hospital charity care users in the state are non-Hispanic, white, and citizens of the U.S. reflecting the overall demographics of the state's uninsured population (DeLia et al., 2004). Nevertheless, a substantial fraction of charity care is likely provided to immigrants and racial and ethnic minorities, as these population subgroups are disproportionately represented among low-income uninsured populations.

The use of hospital charity care by immigrants, particularly those who are undocumented by the Immigration and Naturalization Service, has gained much attention as part of the ongoing debate over immigration reform. The extent to which undocumented immigrants use hospital charity care is not clear from the data available for this report. Prior research has found that immigrants in general, and undocumented immigrants in particular, use substantially fewer medical services than native-born citizens, overall and relative to individuals with similar income and insurance coverage (Mohanty et al., 2005; Guendalman, Schauffler, and Pearl, 2001;Ku and Matani, 2001; Berk et al., 2000). One possible exception is the receipt of hospital care for childbirth, which is more common among immigrants (Berk et al., 2000). In addition, the adjudication process for charity care claims requires hospitals to certify that their patients meet the state's income and residence requirements for the program. To the extent that this information is not available for undocumented immigrants, they will not appear in the adjudicated charity care claim files.

Information about patient race, ethnicity, and geographic location (e.g., zip code) should not be difficult to include in charity care claim records, since these data elements already appear in the state's Uniform Billing (UB) records for general inpatient care and same-day procedures. The collection of information about immigration status by hospitals is more complicated and controversial. Many fear that requiring this information will discourage patients from seeking care until their health problem becomes an emergency. Under these circumstances, the cost of care can increase significantly and the public health consequences of delayed care can be severe, particularly in cases involving infectious disease and early stages of a bioterrorist attack.

Moreover, once patients arrive at the hospital, it is neither practical nor plausible for hospitals to delay or deny care until immigration status is verified. A useful proxy for immigration status is existence of a Social Security Number for each patient. Although many exceptions exist (Porter, 2005), undocumented immigrants typically do not have a Social Security Number and legal residents typically do. This proxy measure can be useful to determine the extent to which undocumented immigrants use unreimbursed hospital care in specific hospitals and in different parts of the state. From a public health perspective, it would also be useful to apply this proxy measure to determine the kinds of illnesses and injuries undocumented immigrants present to hospitals.

The analysis in this report shows that prenatal care and delivery are among the most common charity care services provided by hospitals in NJ. This finding is somewhat surprising, since low-income pregnant women have much greater access to Medicaid coverage than other low-income populations and hospitals are required to screen for eligibility before submitting claims for charity care. However, Medicaid eligibility for pregnant women is not straightforward. Pregnant women fall into different eligibility categories based on their income and immigration status with different rules applied to immigrants who are undocumented or in the U.S. for less than five years. Pregnant women who are ineligible for Medicaid may be eligible for services provided through NJFamilyCare. But nationwide analysis has shown that many individuals who appear to be eligible for Medicaid are not enrolled (Davidoff et al., 2001). While hospitals are expected to screen for Medicaid eligibility before submitting claims for charity care, it is possible that some Medicaid eligibles will be missed. Also, undocumented immigrants are ineligible for all but emergency services through Medicaid, and therefore, may be heavily dependent on charity care for prenatal services. Given these considerations, a more detailed investigation of Medicaid and FamilyCare eligibility among pregnant women receiving charity care appears warranted.

The analysis above also shows that the Charity Care Program in NJ provides a substantial volume of treatment for mental health diagnoses. These treatments, which are among the Program's costliest, are often done an inpatient basis. Moreover, mental health issues often appear as secondary diagnoses that complicate physical health problems. The prevalence of mental health problems among the charity care population is not entirely surprising given that these problems are known to be common among low-income populations in general (Chow, Jaffee, and Snowden, 2003). Also, mental illness is often a cause of economic hardship such as

job loss or inability to continue education and job training. As a result, individuals with mental illness frequently become uninsured.

This pattern of utilization may also be related to reductions in the capacity of New Jersey's psychiatric hospitals dating back to the mid-1980's. After closing its largest psychiatric hospital in 1998, NJ was left with only six psychiatric hospitals statewide (Bovbjerg and Ullman, 2002). These reductions were recommended as part of an effort to provide more community-based mental health treatment in lieu of institutionalization for all but the most severely mentally ill. However, the National Association of Mental Illness recently described psychiatric hospitals in NJ as unable to meet the level of need for their services (2006). As a result, the state's general acute care hospitals have become major providers of mental health services to the state's poor and uninsured populations. These observations suggest that, in addition to improving outcomes for patients, a substantial amount of charity care costs may be saved through better management and treatment of mental health problems among the low-income uninsured.

Treatment for substance abuse is also common in the charity care population with much of the volume and cost occurring on an inpatient basis. In contrast to mental health, where 2/3 of charity care admissions originate in the emergency department (ED), most (70%) charity care admissions for substance abuse do not originate in the ED. Nevertheless, the local hospital may be the only source of care available to individuals with substance abuse problems. Therefore, improved management and treatment of substance abuse problems also stand out as important focal areas for optimizing the financing and delivery of care to the uninsured.

A variety of other hospital services are provided with support from the Hospital Charity Care Program. Some of these services, such as admissions for circulatory disorders, reflect health problems that are common to all socioeconomic strata in the U.S. Other services such as treatment for hypertension, diabetes, and mental disorders, reflect healthcare utilization patterns by the uninsured nationally (Thorpe, 2006).

Like healthcare costs in general, charity care costs are concentrated among a small number of patients. In 2003, for example, 50% of charity care costs were attributable to only 5% of total patient encounters (i.e., outpatient visits and inpatient admissions). Since one patient can have multiple encounters, the concentration of charity care costs may be even greater than these statistics indicate. These findings suggest that a large portion of charity care costs might be

saved with improved medical management for a small number of high-cost charity care patients. This point is underscored by the prevalence of charity care costs attributable to ED visits and inpatient admissions for conditions that may have been avoided with timely access to primary care. These costs amounted to approximately 10% of total charity care costs throughout the study period (1999-2003). An important first step in this effort would include the creation of databases to track high-cost and repeat users of charity care.

Nationwide there has been some interest in the use of "health navigators" to coordinate screening, prevention, acute care, chronic care, follow-up, and social services for underserved populations. Although formal evaluations of the navigator model are rare, a number of federal, local, and private initiatives continue to be funded as a way of encouraging and improving this method of coordination (Dohan and Schrag, 2005; Lemak, Johnson, and Goodrisk, 2004). This approach may be useful as a way of improving access and improving the management of medical conditions for the charity care population, especially for individuals with multiple conditions or those struggling with mental health or substance abuse problems.

Strategies to better manage care provided to the low-income uninsured may also involve diverting some charity care funding for hospitals to Federally Qualified Health Centers (FQHC's) and other primary care providers who may be better positioned to coordinate medical services for the uninsured. FQHC's, in particular, are designed to provide preventive and community-based services to populations who would have difficulty obtaining these services elsewhere. Though not definitive, some evidence suggests that FQHC users have lower rates of potentially avoidable hospitalizations (Epstein, 2001; Falik et al., 2001).[4]

In theory, money saved from reductions in hospital utilization could be used to offset the costs of supporting more primary care visits at FQHC's. For several years, the state provided $8 to $12 million annually to support the delivery of primary care to low-income uninsured patients at FQHC's (DeLia et al., 2004). Recent legislation increased this support (under the name Uncompensated Primary Care Program) to $35 million in SFY-2006 and SFY-2007 (Holmes, 2005). Nevertheless, the balance of charity care dollars for the uninsured still favors hospital-based over other types of care.

Despite the promise of FQHC's, hospitals remain important providers of primary care to low-income uninsured patients. Even with recent expansions, FQHC's are not universally

available to all medically underserved areas. Patients often seek care directly from hospital ED's with the expectation that they can receive care 24 hours a day without an appointment (Regenstein et al., 2004). Although primary care received from hospitals, especially in the ED, often generates higher charges than in other settings, the actual costs of care delivered are generally much lower (Williams, 1996). Therefore, it is not necessarily true that diversion of hospital charity care patients to FQHC's and other primary care providers would be cost-saving. Moreover, hospitals remain an important source of specialty care for the uninsured, which is not available at FQHC's and is typically unaffordable for the uninsured at private practices (Regenstein et al., 2004).

New Jersey's Hospital Charity Care Program, along with the Hospital Relief Subsidy Fund and the Hospital Relief Subsidy Fund for Mentally Ill and Developmentally Disabled, has played a pivotal role in maintaining the financial solvency of many hospitals in the state. In 2003, 53% of hospitals had negative operating margins. Without state subsidies, however, this number would have been 70% with several hospitals experiencing operating margins below negative 20%. Although a substantial reduction in these subsidies may force hospitals to improve their efficiency and provide care at lower cost, hospitals might also be forced to severely limit the provision of care to the uninsured. Finding the right balance between incentives for efficiency and maintaining access to care will be a fundamental challenge for the Commission on Rationalizing Health Care Resources currently being formed by Governor Jon Corzine (U.S. Fed News, 2006).

To further understand and improve the Hospital Charity Care Program in NJ, it is useful to consider where the program fits in a broader context. State subsidies for charity care are part of a complex web of federal and state subsidies designed to assist safety net hospitals as they maintain access to care for poor, uninsured, and other vulnerable patients. Although the amount varies from year to year, hospitals in NJ receive approximately $100 million statewide from the Medicare Disproportionate Share Hospital (DSH) Program (Wynn et al., 2002). Nevertheless, this program has been criticized nationally for its inability to direct money appropriately to true safety net providers (Nicholson, 2002). The Medicaid DSH Program, which is financially linked to the Charity Care Program in NJ, has also been criticized for its complexity and the existence of loopholes that permit states to use federal DSH dollars for purposes unrelated to safety net hospitals or public health (Mechanic, 2004). More broadly, almost all hospitals in NJ benefit financially from a variety of tax exemptions stemming from their not-for-profit status. Although

the underlying justification for these exemptions is based on the idea that not-for-profit hospitals provide community benefits, the value and evidence of these benefits in relation to the tax exemptions remain a matter of ongoing controversy and debate (Flynn, 2005).

Despite substantial federal and state support, the overall financial condition of hospitals in NJ has been much worse than the national average for many years. In 2004, the average hospital operating margin in NJ was 1% compared to 4% among hospitals nationwide (New Jersey Hospital Association, 2006). This difference in financial condition of hospitals can be attributed to many factors including the size of the uninsured population using hospital care, adequacy of payment from government programs such as Medicaid, and local market conditions affecting private reimbursement. Nevertheless, NJ is one of the highest ranking states nationally in terms of Medicaid DSH expenditures overall and per uninsured resident (Mechanic, 2004). This raises the question of whether charity care and other state subsidies could be re-designed to improve access to care and increase efficiency in the delivery of services to the uninsured.

Currently, charity care subsidies are distributed based on relative amounts of charity care that were provided in 2002. Since the local demand for charity care can change over time, it is important to update the subsidy to reflect this change at individual hospitals. Nevertheless, the allocation formula in place in 2002 was complex making it difficult for hospitals to anticipate how the delivery of charity care would translate into assistance from the state. The simplest alternative to the latest formula would be to pay hospitals for charity care directly on a claims basis using Medicaid fee-for-service rates as a baseline. The actual amount paid would be adjusted upward or downward based on available funding relative to statewide charity care delivery.

Despite the importance of simplicity and clarity of incentives in the Charity Care Program, the state also has an interest in making sure key safety net providers remain financially viable. This consideration plays a large role in adding complexity to the distribution formula. The formula is designed to provide greater charity care funding to hospitals with a smaller percentage of revenue from private insurers and to hospitals in poor financial condition. Yet even with these features, half of the state's hospitals continually lose money. Moreover, subsidies that are based directly on poor financial performance can create disincentives for hospitals to improve their efficiency and financial performance. Given the limited resources available, a more systematic basis is required for determining which hospitals make up the core of the healthcare safety net

and, therefore, deserve more support than would be offered through a straight claims-based charity care subsidy.

Reform of the hospital charity care subsidy should also include an assessment of the other hospital subsidies paid through the state's Health Care Subsidy Fund, which are discussed only briefly in this report. These additional subsidies appear isolated from other safety net policies and are not well understood in terms of their impact on access to care.

It has been suggested elsewhere that the charity care subsidy creates incentives for some hospitals to overlook eligibility for public coverage and blur the distinction between patient bad debt (i.e., uncollected copayments from insured patients) and charity care for the low-income uninsured (Gantner, 2005). On the other hand, hospitals that receive limited subsidies for charity care may find that the costs of documentation and certification of eligibility are not worth the costs of submitting a claim. Though it is beyond the scope of this report to determine whether hospitals are submitting charity care claims appropriately, it may be useful to clarify the definition of charity care and standardize the process for determining charity care eligibility as part of broader reform.

Conclusion

Trends in the number of uninsured residents and the utilization of hospital charity care highlight the growing importance of the Hospital Charity Care Program in New Jersey. In addition to providing a variety of acute and chronic care medical services, the program also ensures the financial stability of many hospitals that would likely become insolvent without state support. Nevertheless, the rules that govern the distribution of charity care and related state subsidies to hospitals are complex and may not provide the optimal use funds. As the costs of charity care continue to outpace the level of state funding, it becomes increasingly important to reexamine, and perhaps reform, the structure of the program to achieve maximum benefits for the population it is designed to serve.

Endnotes

1. The trends in this report differ slightly from those reported in DeLia (2006). This report analyzes data based on the dates when charity care was delivered, while DeLia (2006) analyzes data based on the dates when charity care subsidies were paid to hospitals.

2. Other measures of charity care burden such as charity care costs relative to net patient revenue from privately insured patients generate similar findings.

3. Some Medicare patients have difficulty paying the cost-sharing required for hospital services. However, hospitals are expected to recover Medicare bad debt directly from the Medicare Program and are prohibited from charging these amounts to the NJ Charity Care Program.

4. Much of this research focuses on the Medicaid fee-for-service population rather than the uninsured. In addition, research regarding the effects of FQHC's on patient utilization is typically based on comparisons between individuals who use FQHC's regularly versus those who do not. Since FQHC users may be different from non-users in ways that are related to hospital use, the mere presence of an FQHC may not be sufficient to divert primary care patients from hospitals.

References

Bazzoli, G.J., R. Kang, R. Hasnain-Wynia, and R.C. Lindrooth (2005), "An Update on Safety-Net Hospitals: Coping with the Late 1990's and Early 2000's", *Health Affairs* 24(4): 1047-1056.

Billings, J., L. Zeitel, J. Lukomnik, T.S. Carey, A. E. Blank, and L. Newman (1993), "Impact of Socioeconomic status on Hospital Use in New York City", *Health Affairs* 12(1): 162-173.

Blustein, B., K. Hanson, and S. Shea (1998), "Preventable Hospitalizations and Socioeconomic Status," *Health Affairs* 17(2): 177-189.

Bovberg, R. and F. Ullman (2002). *Recent Changes in Health Policy for Low-Income People in New Jersey*. Assessing the New Federalism. State Update No. 21. Urban Institute: Washington, DC.

Chow, J.C., K. Jaffee, and L. Snowden (2003), "Racial/Ethnic disparities in the Use of Mental Health Services in Poverty Areas." *American Journal of Public Health* 93(5): 792-797.

Davidoff, A., B. Garrett, and A. Yemane (2001). *Medicaid Eligible Adults Who Are Not Enrolled: Who Are They and Do They Get the Care They Need?* Assessing the New Federalism. Policy Brief. Urban Institute: Washington, DC.

DeLia, D. (2006) "Caring for the New Uninsured: Use of Hospital Charity Care by the Older People Without Coverage." *Journal of the American Geriatrics Society*. 54(12): 1933-1936.

DeLia, D. (2003), "Distributional Issues in the Analysis of Preventable Hospitalizations". *Health Services Research* 38(6): 1761-1779.

DeLia, D. and D. Belloff. *Disparity in Health Insurance Coverage: Urban Versus Non-Urban Areas of New Jersey*. Report to the New Jersey Department of Human Services, November 2005.

DeLia, D., M. Koller, C.Schneider, and L.Glickman. *The Medically Uninsured in New Jersey: A Chartbook*. State of New Jersey Department of Human Services in collaboration with the Rutgers Center for State Health Policy, August 2004.

DeLia, D. J. Cantor, D. Davis, and N. Ahmad. *State Subsidies for Federally Qualified Health Centers in New Jersey: Options for Reform*. Report to the New Jersey Department of Health and Senior Services, August, 2004.

Dohan, D. and D. Schrug (2005), "Using Navigators to Improve Care of Underserved Patients." *Cancer* 104(4): 848-855.

Dranove, D., M. Shanley, and W.D. White (1991), "Does the Consumer Price Index Overstate Hospital Price Inflation?" *Medical Care* 29: 690-696.

Epstein, A. J. (2001), "The Role of Public Clinics in Preventable Hospitalizations among Vulnerable Populations." *Health Services Research* 36(2):405–420.

Falik M., Needleman J., Wells B.L. & Korb J. (2001), "Ambulatory Care Sensitive Hospitalizations and Emergency Visits: Experiences of Medicaid Patients Using Federally Qualified Health Centers." *Medicare Care* 39: 551-556.

Flynn, D. (2005), "Overview of Charity Care Requirements Imposed on Nonprofit Hospitals." *Healthcare Review*, Fall. Duane Morris LLP.

Gantner, J. (2005), "New Jersey Charity Care." Unpublished paper submitted to the New Jersey Governor's Health and Senior Issues Transition Team.

Goldman, D.P. J. P. Smith, and N. Sood (2006), "Immigrants and the Cost of Medical Care." *Health Affairs* 25(6): 1700-1711.

Hadley, J. and J. Holahan (2004). The Cost of Care for the Uninsured: What Do We Spend, Who Pays, and What Would Full Coverage Add to Medical Spending? *Report prepared for the Kaiser Commission on Medicaid and the Uninsured.*

Holmes, C. *Expanding Primary Health Care in New Jersey through Centers for Primary Health Care*. New Jersey Department of Health and Senior Services, April 2005.

Hopkins, S (2004) "Defining the Components of Uncompensated Care," presented at the Reducing the Number of Uninsured through State-Hospital Partnerships Conference, sponsored by the Health Research & Educational Trust of New Jersey, Princeton, NJ. May 13.

Kruzicas, D. T., H.J. Jiang, D. Remus, M.L. Barrett, R.M. Coffey, and R. Andrews (2004). *Preventable Hospitalizations: A Window into Primary and Preventive Care, 2000*. Agency for Healthcare Research and Quality Publication No. 04-0056. Washington, DC.

Kullgreen, J., E. Fries Taylor, and C. McLaughlin (2005), "Donated Care Programs: A Stopgap Measure or Long-run Alternative to Health Insurance?" *Journal of Health Care for the Poor and Underserved* 16: 421-430.

Lemak, C.H., C. Johnson, and E.E. Goodrick (2004), "Collaboration to Improve Services for the Uninsured: Exploring the Concept of Health Navigators as Interorganizational Integrators." *Health Care Management Review* 29(3): 196-206.

Mann, J., G. Melnick, A. Bamezai, and J. Zwanziger (1997), "A Profile of Uncompensated Hospital Care, 1983-1995", *Health Affairs* 16(4): 223-232.

Mechanic, R. (2004). *Medicaid's Disproportionate Share Hospital Program: Complex Structure, Critical Payments*. National Health Policy Forum Background Paper. George Washington University: Washington, DC.

Medicare Payment Advisory Commission. *Report to the Congress*. March 2002.

Migration Policy Institute: Migration Information Source, "Size of the Foreign-Born Population and Foreign Born as a Percentage of the Total Population, for the United States: 1850 to 2000," http://www.migrationinformation.org/GlobalData/charts/final.fb.shtml (Last accessed 8/29/05).

Migration Policy Institute: Migration Information Source, "States and Regions Ranked by Number of Foreign Born: 2000," http://www.migrationinformation.org/USFocus/ranktable.1.html (Last accessed 8/29/05).

Mold, J.W., G.E. Fryer, and C.H. Thomas,"Who are the Uninsured Elderly in the United States," *Journal of the American Geriatrics Society* 52, no.4 (2004): 601-606.

National Conference of State Legislatures, "The Immigrant Policy Project: A Quick Look at U.S. Immigrants: Demographics, Workforce, and Asset Building," 17 June 2004, http://www.ncsl.org/programs/immig/immigstatistics0604.htm (Last accessed 8/29/05).

New Jersey Hospital Association (2006), "Reports Show Hospital Margins Slipping." *Leading Opinion* 15(1).

Newhouse, J. (1993), "An Iconoclastic View of Cost Containment." *Health Affairs*. Supplement.

Nicholson, S. (2002). *Medicare Hospital Subsidies: Money in Search of a Purpose*. American Enterprise Institute Evaluative Studies: Washington, DC.

NYU Center for Health and Public Service Research, "NYU ED Algorithm: Background," http://www.nyu.edu/wagner/chpsr/index.html?p=61 (Last accessed 8/29/05).

Porter, E. (2005), "Illegal Immigrants are Bolstering Social Security with Billions." *New York Times*. April 5, Sections A1 and C6.

Regenstein, M., L. Nolan, M. Wilson, H. Mead, and B. Siegel. *Walking a Tightrope: The State of the Safety Net in Ten U.S. Communities*. Urgent Matters. May, 2004.

Sofaer, R. and W. Lambert (1988), "Uncompensated Hospital Care in California" in *Advances in Health Economics and Health Services Research*, Vol. 9, eds. R. Scheffler and L.F. Rossiter.

Thorpe, K. (2006), "Changing Clinical Characteristics of the Uninsured: Implications for Funding Care for the Uninsured." Presentation at the Academy Health Annual Research Meeting in Seattle, WA.

U.S. Census Bureau, "Foreign-Born Population Tops 34 Million, Census Bureau Estimates," 22 February 2005, http://www.census.gov/Press-Release/www/releases/archives/foreignborn_population/003969.html (Last accessed 8/29/05)

U.S. Fed News (2006). Governor Corzine Signs Executive Order Creating Commission on Rationalizing Health Care Resources. News Release on October 12.

Williams, R., "The Costs of Visits to Emergency Departments." *New England Journal of Medicine* 334(10): 642-646, March 7, 1996.

Wynn, B., T. Coughlin, S. Bondarenko, and B. Bruen (2002). *Analysis of the Joint Distribution of Disproportionate Share Hospital Payments*. Report PM-1387-ASPE prepared for the Assistant Secretary of Planning and Evaluation, U.S. Department of Health and Human Services by RAND under contract with the Urban Institute.